

US EPA ARCHIVE DOCUMENT

## Attachment 5

### EHRT Design and Performance Criteria

Defendants agree to construct, according to the Design and Performance Criteria stated below, two Enhanced High Rate Treatment (as defined in Paragraph A.2 of the Final WWIP, "EHRT") Projects in Phase 1 of the WWIP. The two Phase 1 EHRT projects are 1) the EHRT Pilot Project at Werk and Westbourne, Project Number 10130740, and 2) the EHRT facility proposed as part of the LMCP, which is subject to continuing study under the LMC Action Plan (collectively, the projects are "the Phase 1 EHRT Projects"). The Phase 1 EHRT Projects will confirm the treatment performance of the EHRT technology of high rate sedimentation treatment, with disinfection treatment and dechlorination during the recreational season.

After construction, the Phase 1 EHRT Projects will be operated and studied. The results of the studies shall be submitted to the Regulators. The design for EHRT facilities to be constructed in Phase 2 will be based on the Design Criteria below, the results of the performance studies on the Phase 1 EHRT Projects and applicable requirements of federal and state law.

#### Design Criteria Applicable to All EHRT Facilities:

##### A. Design Numeric Criteria Goals

- (1) High Rate Sedimentation Treatment. The EHRT facility shall be designed with the goal of achieving during the Recreation Season (May 1 to October 30) an average total suspended solids (TSS) removal rate of 70% at its design flow rate or below for all events in which the average influent solids exceed 150 mg/l, and for events in the Recreation Season in which the average influent TSS concentration is less than 150 mg/l an average effluent TSS concentration of no more than 45 mg/l.
- (2) Disinfection Treatment. The EHRT facility shall be designed with goals of:
  - (a) Achieving a mean of 3 to 4 log reduction of E. coli for all events during the Recreation Season at the design flow rate or below.; and
  - (b) Complying with water quality-based E. coli limitations (or other then-applicable bacteriological parameters) and disinfection residuals requirements at its design flow and all flow rates below that design flow rate.

##### B. Design Criteria Specifics for Unit Processes

Each EHRT facility shall include the following unit processes:

- (1) Fine screens
- (2) Coagulant-assisted sedimentation

- (3) Coagulant feed and storage
- (4) Hypochlorite disinfection
- (5) Disinfectant feed and storage
- (6) Disinfectant removal (e.g., dechlorination)

C. Each EHRT facility shall be designed with the following attributes:

- (1) Effective mixing at each point of chemical addition;
- (2) Separate sedimentation and disinfection contact zones;
- (3) A minimum total nominal detention time of 27 minutes;
- (4) A minimum nominal disinfection contact time of 10 minutes; and
- (5) A maximum nominal sedimentation zone surface loading rate of 7,000 gpd/square foot.

Performance Criteria Applicable to All EHRT Facilities: Discharges from each EHRT facility shall comply with all requirements of state and federal law applicable to such discharges, and all requirements of state and federal permits applicable to such discharges.